ORD 7398
11/13/96
5a

P.O. BOX 34325
SEATTLE, WA 98124-1325

6100 CARILLON POINT
KIRKLAND, WASHINGTON 98033
PHONE: (206) 889-3400
FAX: (206) 889-4100

Van Waters & Rogers Inc.
subsidiary of **Univar**

FILE COPY

November 13, 1996

RECEIVED
NOV 18 1996
"RCRA Compliance Unit"
"OWCM"

VIA FEDERAL EXPRESS

Ms. Rebecca Paul
Environmental Specialist
Northwest Region
Oregon Department of Environmental Quality
2020 SW Fourth Ave, Suite 400
Portland OR 97201-4987

Re: Multnomah County
Van Waters & Rogers Inc.
ORD 009227398
NWR-HW-096-091
NOTICE OF NONCOMPLIANCE

Dear Ms. Paul:

Van Waters & Rogers Inc. (VW&R) has completed its review of the Oregon Department of Environmental Quality's (DEQ) Notice of Noncompliance letter dated October 30, 1996, concerning certain alleged regulatory violations identified during an inspection of VW&R's Portland facility on October 18, 1996. We appreciate this opportunity to respond to DEQ's Notice of Noncompliance. Our response to each of the five alleged violations is set forth below.

VIOLATION 1: 40 C.F.R 262.34 (a) (2) adopted by OAR 340-100-002 by failing to date a container with hazardous waste with an accumulation start date.

RESPONSE TO VIOLATION 1:

As noted in your October 30, 1996 letter this item was addressed and is no longer an issue.

VIOLATION 2: 40 C.F.R. 262.34 (a) (3) as adopted by OAR 340-100-002 by failing to label a drum storing hazardous waste with the words, "Hazardous Waste".

RESPONSE TO VIOLATION 2:

As noted in your October 30, 1996 letter, this violation was addressed and is no longer an issue.

VIOLATION 3: 40 C.F.R. 268.7 (a) (4) as adopted by OAR 340-100-002 by not retaining copies of several Land Disposal Restriction Forms, LDR.

RESPONSE TO VIOLATION 3:

As indicated on the attached manifest (Attachment A), this material was not subject to the Land Disposal Restrictions. This manifest was for a shipment of a lab pack shipped to the Rollins Deer Park, Texas treatment, storage and disposal facility (TSDF) for disposal. On the first page of this manifest, all items are shown as DOT regulated or non-hazardous and have no RCRA waste codes. The one item on the second page is chlorodinitrobenzene and according to our information as well as the TSDF, the manifest erroneously had the word "waste" in the shipping description, but it is not RCRA regulated material (Attachment A). In addition, the lab pack was not regulated as a hazardous waste in Texas. The codes (OUTS0031) shown in section "I" of the manifest indicate that this material originated from an out-of-state generator (OUTS); consisted of a mixed lab pack (003), and was not a RCRA regulated material (I). The letter "H" would be entered if the material was RCRA regulated. A copy of the TWC waste code definitions is attached as Attachment A.

VIOLATION 4: ORS 468.095 (1) by failing to supply records requested on the waste determination for the site groundwater.

RESPONSE TO VIOLATION 4:

VW&R has a dedicated file cabinet at its Portland facility for all information generated as part of the ongoing EPA RCRA Corrective investigation and remediation. Copies of groundwater analytical results which were used to make the waste determination for site groundwater are stored in VW&R's document repository. Groundwater generated at the facility is managed as a hazardous waste and supporting documentation, as acknowledged in your October 30, 1996 letter, was forwarded to you. Key facility personnel have been briefed on the filing system in order to facilitate document retrieval in the future.

VIOLATION 5: OAR 340-120-011 Van Waters & Rogers failed to adequately perform a hazardous waste determination on three waste streams which were generated by the facility. Those waste streams: spill cleanup waste generated by the facility's general operation, waste soil collected during a sewer investigation project, and soil excavated during the installation of a soil vapor recovery system.

RESPONSE TO VIOLATION 5:

As a general matter, VW&R believes it did adequately perform the required hazardous waste determinations on two of these three waste streams generated on-site. In accordance with 40 C.F.R. 262.11, as adopted by OAR 340-100-002(1), VW&R determines the waste stream origins and characteristics. Based upon whether the solid waste was (or contained) a listed hazardous waste in 40 C.F.R. 261.30 (Subpart D), or whether it exhibited a hazardous waste characteristic pursuant to 40 C.F.R. 261.20 (Subpart C), the waste stream is managed according to applicable hazardous waste regulations, including whether the waste is banned from land disposal pursuant to 40 C.F.R. 268.7.

Spill cleanup material: Spill material is required to be managed as a hazardous waste at the facility. A container has been added to the satellite accumulation area dedicated for any material used for the cleanup of chemical releases. A photograph of the container is enclosed (Attachment B) for your review.

Soil from sewer project: VW&R believes that it adequately characterized the soil that was removed from the 42-inch sewer line. Based upon the source of this waste material, VW&R performed a total sample analysis for hazardous waste constituents. The material from the sewer was generated during a voluntary investigation conducted by VW&R in cooperation with the City of Portland to assess the structural integrity of a 42-inch storm sewer line. The project was conducted in several phases. The first phase occurred on August 3-6, 1996 and approximately two cubic yards of soil were placed in hazardous waste certified roll-off containers supplied by MP Environmental Services, Inc. of Bakersfield, California. A representative sample of the material was collected on August 6, 1996 by Mr. Sam Allatto. The sample was immediately placed on ice in a cooler and transported to Columbia Analytical Services in Kelso, Washington for analysis using EPA Test Method 8260. The analytical results were received on September 4, 1996 and indicated that the material contained hazardous waste (Attachment C). VW&R proceeded to manage the material as a hazardous waste, although through an oversight a hazardous waste label was not affixed to the container after the temporary "Analysis Pending" label was removed. Nevertheless, throughout the waste determination and subsequent profiling period the container was managed as a hazardous waste. The material was stored in a RCRA approved container which was stored in a secured area. Attachment D demonstrates that the container was properly labeled before leaving the VW&R facility.

Approximately three cubic yards of material from the 42-inch storm sewer line was also placed in the container between August 23 - 25, 1996. A sample was analyzed and determined to contain similar concentrations of hazardous waste as the first sample. The material was manifested (Attachment E) off-site for bulk incineration at the USPCI Clive, Utah facility on October 31 1996.

Soil from the trenching project. The soil was generated during the excavation of a trench for the collection piping to VW&R's proposed RCRA corrective action groundwater treatment system; not, as suggested by facility personnel, during the installation of the soil-vapor extraction system (VES). The VES was installed on the operational dock in an area of maximum soil contamination as demonstrated by the isoconcentration maps (Attachment F Figures 31-33) compiled by Harding Lawson Associates and approved by the EPA. By contrast, the groundwater piping was installed along the former south perimeter fence line, an area of the facility that historically has not been exposed to significant chemical handling activities. The isoconcentration maps show the area of the pipeline to be outside of the soil contamination zone and a review of VW&R's spill history indicates that no spills or releases of a reportable quantity of hazardous constituents has ever occurred in this portion of the facility. In addition, the area is paved with asphalt and surface drainage is away from the pipeline trench (Attachment G).

Prior to excavation, seven soil samples were collected and submitted, under chain-of-custody, for VOC analysis using EPA Test Method 8240. The analytical results (Attachment H) indicated only trace amounts of VOCs were present in the soil with the exception of Sample #4 which was collected from the center vault location. This sample had elevated levels of tetrachloroethylene, trichloroethene, and cis 1,2 dichloroethene.

Soil samples were collected at lithologic changes, color changes, and other visually anomalous locations and therefore considered representative of worst case conditions. The soil was placed in zip-lock bags and exposed to a heat lamp for 15 minutes. The nozzle of the PID was then inserted into the bag in an attempt to measure VOCs volatalized from the soil. Again, no VOCs were recorded.

Approximately 15 yards of soil was excavated from the area of the central vault and placed into roll-off container E-254. As a precautionary measure, soil extending approximately 30-feet on either side of the central vault were placed in roll-offs E-283 and E-2101, although no VOCs were detected on the PID. The remaining soil was placed on a bermed visqueen pad and covered with visqueen.

VW&R subsequently stored and treated the material on-site in the roll-off container utilizing air sparging to remove the VOC contaminants prior to off-site disposal. Pursuant to 40 C.F.R. 262.34, VW&R did not require a permit to treat this material on-site for less than 90 days from its generation. The sparge system consisted of two 4-inch perforated lines placed along the bottom of the roll-off and two lines placed on top of the soil to collect vented soil vapors before they could escape to the atmosphere. The bins were sealed in visqueen and negative pressure was maintained in the space between the top of the soil and the roof of the roll-off to prevent any soil vapors from escaping. The collected soil vapors were then passed through two activated carbon canisters to remove all VOCs before being discharged to the atmosphere.

Composite soil samples were collected from each roll-off container following 30 days of sparging. Each composite sample was collected in the same manner. A grid system consisting of 30 cells was laid out for each roll-off and five cells for sampling were randomly chosen using a random numbers table. Similarly, a composite sample was collected from the soil pile.

The composite samples were then sent to the laboratory for analysis using EPA Test Methods 1311/8240. The analytical results (Attachment I) were all below detection limit and the soil was profiled as a nonhazardous waste and shipped off-site to Chem Waste Management's facility in Arlington, WA, a Class H landfill.

We do not believe that VW&R failed to adequately perform a hazardous waste determination for the treated soil contained in the roll-off. Based upon the source of the excavated soil, pursuant to 40 C.F.R. 262.11, VW&R determined that this soil had not been previously impacted by any spills or releases of hazardous constituents and that the area was not used to store chemical products or hazardous waste. Based on this determination, it would have been appropriate for VW&R to take composite samples of the soil for RCRA characteristic waste analysis pursuant to 40 C.F.R. 261.20 (Subpart C). Although, as indicated above, VW&R performed a total sample analysis using EPA Test Method 8240 on the seven samples to be excavated for the groundwater treatment system piping trenches, this was not required pursuant to 40 C.F.R. 262.11.

In closing, we would like to note that VW&R has taken steps to improve our internal coordination between the operations and remediation departments and personnel. We believe that our improved coordination will avoid any future incidents concerning waste handling activities at our Portland facility. We welcome the opportunity to discuss this response with you and answer any questions which you may have. Thank you for your cooperation.

Sincerely,

George Sylvester
Senior Project Manager

GS::mk
Enclosures
cc: Al Odmark, EPA
Jim Vilendre

Attachment A

DEFINITIONS OF TWC WASTE CODE

Texas (In-State) Generators

UNIQUE SEQUENCE NUMBER: A sequence number is an arbitrary tracking identifier assigned by a ***registered*** generator (unless otherwise indicated below) per waste stream. The sequence number (the first four [4] positions in the waste code) may range from 0001 to 9999, or in cases where the sequence number is assigned by TWC, be a combination of alpha and numeric characters.

Please Note: Generators with multiple pick-up locations of the same waste streams, may use the same sequence number. Sequence numbers can be assigned in any order as long as they are only utilized once (i.e., the same number for the same waste each shipment).

- ***Unregistered Generators:*** Contact TWC for sequence number (512/463-8175).
- ***Spill Related Wastes:*** Contact TWC Emergency Response Section (512/908-2508) for sequence number.
- ***TSDFs:*** Facilities that store and/or accumulate a quantity of wastes from more than one (1) site for subsequent shipment to a treatment or disposal facility may use ***"TSDF"*** as the sequence number. ***Please Note:*** This does not pertain to wastes which are treated or altered.
- ***Municipal "CESQ":*** Municipal Conditionally Exempt Small Quantity Generators are non-industrial generators (i.e., do not operate or engage in manufacturing) who normally do not generate waste. In these cases, use ***"CESQ"*** as the sequence number.

FORM CODE: A form code is a numeric code which is linked to a general description of the form of a waste (i.e., organic liquid, inorganic solid, etc.). Form codes (position five [5] through seven [7] in the waste code) are provided within this correspondence.

Please Note: Each general description category has a generic form code (i.e., 219 - other organic liquids) for wastes that are not described by any of the form codes.

CLASSIFICATION CODE: The classification code (position eight [8]) is the final character of the eight (8) digit waste code and distinguishes the waste between hazardous and non-hazardous.

- ***EPA Hazardous Wastes:*** The classification is ***"H."***
- ***Non-hazardous Wastes:*** The classification is ***"7"***. ***Please Note:*** This includes any non-hazardous wastes containing PCBs., including PCB waste from those States that regulated PCBs as a hazardous waste. Texas generators that may have Class 2 or 3 wastes, the classification is "2" or "3."

Out-Of-State Generators

UNIQUE SEQUENCE NUMBER: Out-of-State generators will ***always use*** the sequence code ***"OUTS."***

FORM CODE: Same procedure as Texas (In-State) generators.

CLASSIFICATION CODE: Same procedure as Texas (In-State) generators.

EXAMPLES

Texas In-State Generator	***Out-Of-State Generator***
Generator Type: Industrial registered generator ***Waste Description:*** Mixed flammable spent non-halogenated solvents ***EPA Codes:*** F003, F005, D001 ***TWC Waste Code:*** 00012051H • Sequence Number = 0001 (generator assigned) • Form Code = 205 (Non-halogenated solvents) • Classification Code = H (EPA Hazardous Waste)	***Generator Type:*** Not applicable ***Waste Description:*** Paint related organic sludge ***EPA Codes:*** F003 ***TWC Waste Code:*** OUTS804R • Sequence Number = OUTS (all out-of-state generators) • Form Code = 804 (organic paint or ink sludge) • Classification Code = H (EPA Hazardous Waste)

RES (TX) [illegible]
12/15/92

TEXAS WATER COMMISSION FORM CODES

CODE	WASTE DESCRIPTION
LAB PACKS: **Lab packs of mixed wastes, chemicals, lab wastes.**	
001	Lab Packs of Old Chemicals Only
002	Lab Packs of Debris Only
003	Mixed Lab Packs
004	Lab Packs Containing Acute Hazardous Wastes
009	Other Lab Packs (Specify in Comments)
INORGANIC LIQUIDS: **Primarily inorganic and highly fluid (e.g., aqueous), with low suspended inorganic solids and low organic content.**	
101	Aqueous Waste With Low Solvents
102	Aqueous Waste With Low Other Toxic Organics
103	Spent Acid With Metals
104	Spent Acid Without Metals
105	Acidic Aqueous Waste
106	Caustic Solution With Metals but No Cyanides
107	Caustic Solution With Metals and Cyanides
108	Caustic Solution With Cyanides but No Metals
109	Spent Caustic
110	Caustic Aqueous Waste
111	Aqueous Waste With Reactive Sulfides
112	Aqueous Waste With Other Reactives (e.g., Explosives)
113	Other Aqueous Waste With High Dissolved Solids
114	Other Aqueous Waste With Low Dissolved Solids
115	Scrubber Water
116	Leachate
117	Waste Liquid Mercury
119	Other Inorganic Liquids (Specify in Comments)
198	Nonhazardous Photographic Chemical Wastes (Inorganic)
199	Brine Solution That Could Also Bear The Form Code 113
ORGANIC LIQUIDS: **Primarily organic and is highly fluid, with low organic solids content and low-to-moderate water content.**	
201	Concentrated Solvent-Water Solution
202	Halogenated (e.g., Chlorinated Solvent
203	Non-halogenated Solvent
204	Halogenated/Non-halogenated Solvent Mixture
205	Oil-Water Emulsion or Mixture
206	Waste Oil
207	Concentrated Aqueous Solution or Other Organics
208	Concentrated Phenolics

CODE	WASTE DESCRIPTION
209	Organic Paint, Ink, Lacquer, or Varnish
210	Adhesives or Epoxies
211	Paint Thinner or Petroleum Distillates
212	Reactive or Polymerizable Organic Liquids
219	Other Organic Liquids (Specify in Comments)
296	Ethylene Glycol Based Antifreeze
297	Non-hazardous Liquids Containing PCBs ≥ 50 - < 500 ppm
298	Non-hazardous Liquids Containing PCB ≥ 500 ppm
299	Non-hazardous Photographic Chemical Waste (Organic)
INORGANIC SOLIDS: **Primarily inorganic and solid, with low organic content and low-to-moderate water content; not pumpable.**	
301	Soil Contaminated With Organics
302	Soil Contaminated With Inorganics Only
303	Ash, Slag, or Other Residue From Incineration of Wastes
304	Other "Dry" Ash, Slag, or Thermal Residue
305	"Dry" Lime or Metal Hydroxide Solids Chemically "Fixed"
306	"Dry" Lime or Metal Hydroxide Solids Not "Fixed"
307	Metal Scale, Filings, or Scrap
308	Empty or Crushed Metal Drums or Containers
309	Batteries or Battery Parts, Casings, Cores
310	Spent Solid Filters or Adsorbents
311	Asbestos Solids and Debris
312	Metal-Cyanide Salts/Chemicals
313	Reactive Cyanide Salts/Chemicals
314	Reactive Sulfide Salts/Chemicals
315	Other Reactive Salts/Chemicals
316	Other Metal Salts/Chemicals
319	Other Waste Inorganic Solids (Specify in Comments)
388	Empty or Crushed Glass Containers
389	Non-hazardous Sandblasting Waste
390	Non-hazardous Concrete/Cement/Construction Debris
391	Non-hazardous Dewatered Wastewater Treatment Sludge
392	Non-hazardous Dewatered Air Pollution Control Device Sludge
393	Catalyst Waste
394	Non-hazardous Solids Containing PCBs ≥ 50 - < 500 ppm

OUTS 003 I = Labpacks NON RCRA

OUTS 003 H = Labpacks RCRA REG

different in Suffix codes

Sym	Hazardous materials descriptions and proper shipping names	Hazard Class or Division	Identification Nbrs	Packing Group	Label(s) required (if not excepted)	Special Provisions	Packaging Authorizations (173.***			RCRA CODES	ERG No.	RQ	COMMENTS
							Exceptions	Nonbulk packaging	Bulk packaging				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8A)	(8B)	(8C)				
	approximately 49 percent chlorodifluoromethane, R502												
	Chlorodifluoromethane, R22	2 2	UN1018		NONFLAMMABLE GAS		306	304	314, 315		12		
	Chloronitrobenzenes	6.1	UN1577	II	POISON	T14	None	212	242		56		
	2-Chloroethanal	6 1	UN2232	I	POISON	2, B9, B14, B32, B74, T38, T43, T45	None	227	244		55		
D	Chloroform	6 1	UN1888	III	KEEP AWAY FROM FOOD	N36, T14	153	203	241	U044,D022	55	10	
I	Chloroform	6 1	UN1888	II	POISON	N36, T14		202	241	U044,D022	55	10	
	Chloroformates, toxic, corrosive, flammable, n o s	6 1	UN2742	II	POISON, CORROSIVE, FLAMMABLE LIQUID	5	None	202	243	D002	57		
	Chloroformates, toxic, corrosive, n o s	6 1	UN3277	II	POISON, CORROSIVE	T12, T26	None	202	243		59		
	Chloromethyl chloroformate	6 1	UN2745	II	POISON, CORROSIVE	T18	None	202	243		55		
	Chloromethyl ethyl ether	3	UN2354	II	FLAMMABLE LIQUID, POISON	T8	None	202	243	D001	28		
	Chloronitroanilines	6 1	UN2237	III	KEEP AWAY FROM FOOD		153	213	240		53		
+	Chloronitrobenzene, ortho, liquid	6 1	UN1578	II	POISON	T14	None	202	243		55		
+	Chloronitrobenzenes meta or para, solid	6 1	UN1578	II	POISON	T14	None	212	242		55		
	Chloronitrotoluenes liquid	6 1	UN2433	III	KEEP AWAY FROM FOOD		153	203	241		53		
	Chloronitrotoluenes, solid	6 1	UN2433	III	KEEP AWAY FROM FOOD		153	213	240		53		
	Chloropentafluoroethane, R115	2 2	UN1020		NONFLAMMABLE GAS		306	304	314, 315		12		
	Chlorophenolates liquid or Phenolates liquid	8	UN2904	III	CORROSIVE		154	203	241	D002	55		
	Chlorophenolates solid or Phenolates, solid	8	UN2905	III	CORROSIVE		154	213	240	D002	53		
	Chlorophenols, liquid	6 1	UN2021	III	KEEP AWAY FROM FOOD	T7	153	203	241	U048-o or 2-Chlorophenol	55	100	
	Chlorophenols, solid	6 1	UN2020	III	KEEP AWAY FROM FOOD	T7	153	213	240	U048-o or 2-Chlorophenol	53	100	
	Chlorophenyltrichlorosilane	8	UN1753	II	CORROSIVE	A7, B2, B6, N34, T8, T26	None	202	242	D002	60		
+	Chloropicrin	6 1	UN1580	I	POISON	2, B7, B9, B14, B32, B46, B74, T38, T43, T45	None	227	244		56		
	Chloropicrin and methyl bromide mixtures	2 3	UN1581		POISON GAS	2, B9, B14	None	193	314, 315		55		
	Chloropicrin and methyl chloride mixtures	2 3	UN1582		POISON GAS	2	None	193	245		18		
	Chloropicrin mixture, flammable (pressure not exceeding 14 7 psia at 115 degrees F flash point below 100 degrees F) see Toxic liquids, flammable, etc.												
	Chloropicrin mixtures, n o s.	6 1	UN1583	I	POISON	5	None	201	243		56		
				II	POISON		None	202	243				
				III	KEEP AWAY FROM FOOD		153	203	241				
D	Chloropivaloyl chloride	6 1	NA9263	I	POISON, CORROSIVE	2, B9, B14, B32, B74, T38, T43, T45	None	227	244	D002	59		
	Chloroplatinic acid, solid	8	UN2507	III	CORROSIVE		154	213	240	D002	60		
	Chloroprene, inhibited	3	UN1991	I	FLAMMABLE LIQUID, POISON	B57, T15	None	201	243	D001	30		
	Chloroprene, uninhibited	Forbidden											
	2-Chloropropane	3	UN2356	I	FLAMMABLE LIQUID	N36, T14	150	201	243	D001	26		
	3-Chloropropanol-1	6 1	UN2849	III	KEEP AWAY FROM FOOD	T8	153	203	241		53		
	2-Chloropropene	3	UN2456	I	FLAMMABLE LIQUID	A3, N36, T20	150	201	243	D001	27		
	2-Chloropropionic acid	8	UN2511	III	CORROSIVE	T8	154	203	241	D002	60		
	2-Chloropyridine	6 1	UN2822	II	POISON	T14	None	202	243		54		
	Chlorosilanes, corrosive, flammable, n o s	8	UN2986	II	CORROSIVE, FLAMMABLE LIQUID	B100	None	202	243	D002,D001	29		
	Chlorosilanes, corrosive, n o s	8	UN2987	II	CORROSIVE	B2	154	202	242	D002	60		
	Chlorosilanes, flammable, corrosive, n o s.	3	UN2985	II	FLAMMABLE LIQUID, CORROSIVE	B100, T18, T26	None	201	243	D001,D002	29		
	Chlorosilanes, water-reactive, flammable, corrosive, n o s.	4 3	UN2988	I	DANGEROUS WHEN WET, FLAMMABLE LIQUID, CORROSIVE	A2	None	201	244	D003,D001,D002	40		
+	Chlorosulfonic acid (with or without sulfur trioxide)	8	UN1754	I	CORROSIVE, POISON	2, A3, A6, A10, B9, B10, B14, B32, B74, T38, T43, T45	None	227	244	D002	39	1000	

TEXAS WATER COMMISSION
P.O. Box 13087, Capitol Station
Austin, Texas 78711-3087

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NO RCRA CODES NO LDR

Form approved. OMB No. 2050-0039. expires 09-30-91

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No.: 0 R D 0 8 9 2 2 7 3 9 8 | 0 1 4 7 4

2. Page 1 of 2 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
VAN WATERS & ROGERS
3950 NW YEON AVE.
PORTLAND, OR 97210-
In Emergency see box # 15

4. Generator's Phone (503) 222-1721 ATTN: JERRY JONES

A. State Manifest Document Number: 00191474

B. State Generator's ID: 99941

5. Transporter 1 Company Name: CUSTOM ENVIRONMENTAL TRANSPORT

6. US EPA ID Number: D E D 9 8 0 9 1 8 8 5 8

C. State Transporter's ID: 40756

D. Transporter's Phone: (302) 426-2955

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
ROLLINS ENVIRONMENTAL SERVICES (TX), INC.
2027 BATTLEGROUND ROAD
DEER PARK, TX 77536

10. US EPA ID Number: T X D 0 5 5 1 4 1 3 7 8

G. State Facility's ID: HW-50089-001

H. Facility's Phone: (713) 930-2300

11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
X	HAZARDOUS WASTE LIQUIDS, N.O.S., 9, NA3082, PG III	003	DF	00030	P	OUT50031
X	HAZARDOUS WASTE SOLIDS, N.O.S., 9, UN3077, PG III	001	DF	00004	P	OUT50031
X	~~HAZARDOUS WASTE SOLIDSS, N.O.S., 9, NA3077, PG III~~	001	DF	00005	P	OUT50031
	NON RCRA/ NON DOT REGULATED WASTE	~~002~~ 001	DF	~~00300~~ 00100	P	OUT50031

J. Additional Descriptions for Materials Listed Above
11a) HO77338-60 LAB WASTE
11b) HO77338-60 LAB WASTE
11c) HO77338-60 LAB WASTE
11d) HO77338-60 LAB WASTE

K. Handling Codes for Wastes Listed Above
M043

15. Special Handling Instructions and Additional Information: Use protective gear when handling waste. Avoid inhalation, ingestion, and skin contact. In emergency call Chemtrec at 1-800-424-9300, mention "Labpack". If undeliverable return to generator. B.O.L.# D.O.T. Emergency Response #'s 11a. 31 11b. 31 11c. 31 11d. 31 CD REQUESTED

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name: JERRY JONES | Signature: Jerry Jones for VWR | Month 05 Day 18 Year 94

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name: STEVE BROWN | Signature | Month 05 Day 18 Year 94

18. Transporter 2 Acknowledgement of Receipt of Materials | Date

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space: Lined, Drum #L009, Rejected by RES(TX) due to non-conforming waste. 6-22-94

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
RES(TX)

Printed/Typed Name: Edward A. Stehley | Signature | Date: Month 06 Day 16 Year 94

TWC-0311 (Rev. 01/01/89) White - original Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

Please print or type. (Form designed for use on elite pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator's US EPA ID No. | Manifest Document No.: ORD088922739 8 91474

22. Page 2

Information in the shaded areas is not required by Federal law.

23. Generator's Name: In Emergency see box # 32

VAN WATERS & ROGERS
3950 NW YEON AVE.
PORTLAND, OR 97210-
(503)222-1721 ATTN: JERRY JONES

L. State Manifest Document Number: TX88191474

M. State Generator's ID: 99941

24. Transporter Company Name | 25. US EPA ID Number

N. State Transporter's ID

O. Transporter's Phone ( ) =

26. Transporter Company Name | 27. US EPA ID Number

P. State Transporter's ID

Q. Transporter's Phone

	28. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	HM	29. Containers No.	29. Containers Type	30. Total Quantity	31. Unit Wt/Vol	R. Waste No.
a.	WASTE POISONOUS SOLIDS, N.O.S., (2,4 DINITROCHLOROBENZENE), 6.1, UN2811, PG II		001	DF	00055	P	D017 5003
b.							
c.							
d.							
e.							
f.							
g.							
h.							
i.							

GENERATOR

S. Additional Descriptions for Materials Listed Above

28a H077338-60 LAB WASTE
28b
28c
28d
28e
28f
28g
28h

T. Handling Codes for Wastes Listed Above: M043

32. Special Handling Instructions and Additional Information

Use protective gear when handling waste. Avoid inhalation, ingestion, and skin contact. In emergency call Chemtrec at 1-800-424-9300, mention 'Labpack'. If undeliverable return to generator. B.O.L.# D.O.T. Emergency Response #'s 28a. 53

TRANSPORTER

33. Transporter ____ Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month Day Year)

34. Transporter ____ Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date (Month Day Year)

FACILITY

35. Discrepancy Indication Space

Attachment B

Attachment B

Satellite Accumulation Container - Drip Cleanup Supplies

SATELLITE ACCUMULATION
DRIP CLEAN-UP SUPPLIES

Attachment C

Columbia Analytical Services, Inc.

August 30, 1996

Service Request No.: K9604779

George Sylvester
Van Waters & Rogers
3950 N.W. Yeon
Portland, OR 97210

Dear George:

Enclosed are the results of the sample(s) submitted to our laboratory on August 6, 1996. For your reference, these analyses have been assigned our service request number K9604779.

All analyses were performed consistent with our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the samples analyzed.

Please call if you have any questions. My extension is 239.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Boorse
Project Chemist

HB/sm

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 206/577-7222 • Fax 206/636-1068

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
J	Estimated concentration. The value is less than the method reporting limit, but greater than the method detection limit.
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected at or above the MRL
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Van Water & Rogers	**Service Request No.:**	K9604779
Project:	NA	**Date Received:**	8/6/96
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for sample(s) designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Matrix/Duplicate Matrix Spike (MS/DMS).

All EPA recommended holding times have been met for analyses in this sample delivery group.

The following difficulties were experienced during analysis of this batch:

The Matrix Spike/DuplicateMatrix Spike (MS/DMS) recovery of tichloroethene and toluene for sample Regen Process H2O were not calculated. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Approved by _____ Date 8-30-96

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Van Water & Rogers
Project:
Sample Matrix: Sludge

Service Request: K9604779
Date Collected: 8/6/96
Date Received: 8/6/96
Date Extracted: 8/17/96

Volatile Organic Compounds
EPA Method 8260A
Units: mg/Kg (ppm)
Dry Weight Basis

		Sample Name:	**Sludge**	**Method Blank**
		Lab Code:	K9604779-002(C)	K960819-MB
		Date Analyzed:	8/19/96	8/19/96
Analyte	**MRL**			
Chloromethane	0.5		<1	ND
Vinyl Chloride	0.5		<1	ND
Bromomethane	0.5		<1	ND
Chloroethane	0.5		<1	ND
Trichlorofluoromethane (CFC 11)	0.5		<1	ND
Trichlorotrifluoroethane (CFC 113)	0.5		2	ND
1,1-Dichloroethene	0.5		<1	ND
Acetone	5		<10	ND
Carbon Disulfide	0.5		<1	ND
Methylene Chloride	1		<2	ND
trans-1,2-Dichloroethene	0.5		<1	ND
cis-1,2-Dichloroethene	0.5		15	ND
2-Butanone (MEK)	2		<4	ND
1,1-Dichloroethane	0.5		<1	ND
Chloroform	0.5		<1	ND
1,1,1-Trichloroethane (TCA)	0.5		<1	ND
Carbon Tetrachloride	0.5		<1	ND
Benzene	0.5		<1	ND
1,2-Dichloroethane	0.5		<1	ND
Vinyl Acetate	5		<10	ND
Trichloroethene (TCE)	0.5		19	ND
1,2-Dichloropropane	0.5		<1	ND
Bromodichloromethane	0.5		<1	ND
2-Chloroethyl Vinyl Ether	1		<2	ND
trans-1,3-Dichloropropene	0.5		<1	ND
4-Methyl-2-pentanone (MIBK)	2		<4	ND
2-Hexanone	2		<4	ND
Toluene	0.5		22	ND
cis-1,3-Dichloropropene	0.5		<1	ND
1,1,2-Trichloroethane	0.5		<1	ND
Tetrachloroethene (PCE)	0.5		120	ND
Dibromochloromethane	0.5		<1	ND
Chlorobenzene	0.5		<1	ND
Ethylbenzene	0.5		8	ND
Styrene	0.5		<1	ND
Total Xylenes	0.5		18	ND
Bromoform	0.5		<1	ND
1,1,2,2-Tetrachloroethane	0.5		<1	ND
1,3-Dichlorobenzene	0.5		<1	ND
1,4-Dichlorobenzene	0.5		<1	ND
1,2-Dichlorobenzene	0.5		<1	ND

C The MRL is elevated because the sample required diluting.

Approved By: _____ Date: 8/23/96

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Van Water & Rogers
Project:
Sample Matrix: Sludge

Service Request: K9604779
Date Collected: 8/6/96
Date Received: 8/6/96
Date Extracted: 8/17/96
Date Analyzed: 8/19/96

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds
EPA Method 8260A
Units: mg/Kg (ppm)
Dry Weight Basis

Sample Name: Sludge
Lab Code: K9604779-002

Analyte	Spike Level MS	Spike Level DMS	Sample Result	Spike Result MS	Spike Result DMS	Percent Recovery MS	Percent Recovery DMS	CAS Acceptance Limits	Relative Percent Difference
1,1-Dichloroethene	12	12	ND	11	12	89	96	51-147	7
Benzene	12	12	ND	13	13	108	110	70-120	2
Trichloroethene (TCE)	12	12	19	29	28	78	75	60-123	1
Toluene	12	12	22	31	30	75	70	66-125	2
Chlorobenzene	12	12	ND	13	13	110	106	64-124	3
1,2-Dichlorobenzene	12	12	ND	14	13	115	106	55-117	8
Naphthalene	12	12	ND	9.8	8.3	81	68	13-142	17

Approved By: _____ Date: 8/23/96

DMS1S/102194
04779VOA.LW1 - 8260sDMS 8/22/96

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Van Water & Rogers
Project:
Sample Matrix: Sludge

Service Request: K9604779
Date Collected: 8/6/96
Date Received: 8/6/96
Date Extracted: 8/17/96
Date Analyzed: 8/19/96

Surrogate Recovery Summary
Volatile Organic Compounds
EPA Method 8260A

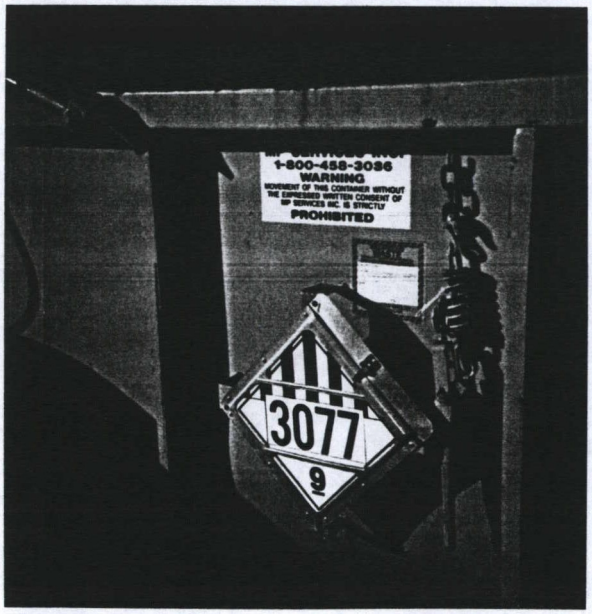
		Percent Recovery		
Sample Name	**Lab Code**	Dibromofluoromethane	Toluene-d_8	4-Bromofluorobenzene
Sludge	K9604779-002	105	99	98
Sludge	K9604779-002MS	102	97	99
Sludge	K9604779-002DMS	100	99	104
Method Blank	K960819-MB	106	98	94
CAS Acceptance Limits:		82-122	84-116	67-129

Approved By: _____ Date: 8/23/96

SUR3/110094
04779VOA.LW1 - 8260sSUR 8/22/96

Attachment D

Hazardous Waste Label - Storm Sewer Soil



Attachment E

ORDER # 82575

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039 Expires 9-30-96

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. / Manifest Document No.: ORD009227398 960211

2. Page 1 of 1 | Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address:
VAN WATERS & ROGERS INC.
3950 NW YEON AVE.
PO BOX 10287
PORTLAND, OR 97210

4. Generator's Phone (503) 222-1721 EMERGENCY CONTACT: BOX 15

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name: M.P. ENVIRONMENTAL SERVICES, INC.

6. US EPA ID Number: CAT000624247

C. State Transporter's ID

D. Transporter's Phone 800-458-3036

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address:
USPCI CLIVE INCINERATOR
3.5 MILES SOUTH OF
EXIT 49, I-80
CLIVE, UT 84029

10. US EPA ID Number: UTD982595795

G. State Facility's ID

H. Facility's Phone 801-595-4470

	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	RQ, HAZARDOUS WASTE, SOLID, N.O.S., (TETRACHLOROETHENE, TRICHLOROETHENE) 9, NA3077, PG III, (RQ-1), (EPA U079 U228 U220 U210 U239 F001 F002 F003 F005), (ERG 171)	X	002	C M	23560	P	U079 U228 U220 U210 U239 F001 F002 F003
b.							
c.							
d.							

J. Additional Descriptions for Materials Listed Above
11A. CF96-1061 SLUDGE
SECTION I ADDITIONAL EPA WASTE NUMBERS D007, D008)

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information WEAR APPROPRIATE PROTECTIVE GEAR WHEN HANDLING. EMERGENCY CONTACT: CHEMTREC: 1-800-424-9300. CALLER MUST IDENTIFY VAN WATERS & ROGERS AS SHIPPER.

CERTIFICATE OF DISPOSAL REQUIRED

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: JERRY JONES | Signature: Jerry Jones for VW&R | Month Day Year: 10 31 96

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: WAYNE MARTIN | Signature: Wayne Martin | Month Day Year: 10 31 96

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19 Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

Style CF17-8 LABELMASTER, AN AMERICAN LABELMARK CO., CHICAGO, IL 60640 (800)621-5808

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

PRINTED ON RECYCLED PAPER USING SOYBEAN INK. PLEASE RECYCLE AFTER USE. DO NOT BURN.

ORIGINAL-RETURN TO GENERATOR

ISPCI
A Subsidiary of Union Pacific Corporation

Form LDR N-1

Notification of Waste Subject to Land Disposal Restrictions

Waste number associated with waste shipment	Generator Name	☐ Supplemental Form LDR N-1a attached for listing additional codes
96021	Van Waters & Rogers Inc.	

Pursuant to 40 CFR 268.7 (a), I hereby notify that this waste shipment contains one or more of the following waste(s) restricted under the land disposal restrictions for which applicable treatment standards are set forth in 40 CFR § 268.40 or 42 USC § 6924(d).

A Hazardous Waste Numbers

F-Listed Solvents (check all that apply)

☒ F001, F002, F003, F004, or F005 (Underlying constituents must be identified. Use Form LDR N-1b.)

☐ F005 Containing 2-Nitropropane or 2-Ethoxyethanol

☐ F001-F005 Containing carbon disulfide, cyclohexanone, methanol, or a combination of these constituents as the sole F001-5 regulated constituent

er Wastes

List all D, F, K, U, or P Subcategory (if any) eg. F006, D003	Subcategory (if any)	✓ wastewater or non-wastewater: WW	NWW	USPCI acceptance #	California List ✓ if applicable	Reason California List applies (list of constituent properties below
F001		☐	☒	CF96-1061	☐	
F002		☐	☒	"	☐	
F003		☐	☒	"	☐	
F005		☐	☒	"	☐	
U079		☐	☒	"	☐	
U228		☐	☒	"	☐	
U220		☐	☒	"	☐	
U210		☐	☒	"	☐	
U239		☐	☒	"	☐	

Concentration			Treatment Standard
pH ≤ 2.0			Neutralize/Stabilize
Cyanides	≥	1,000	Cyanides Destruction/Stabilize
Arsenic	≥	500	Metals Recovery/Solidification
Cadmium	≥	100	Metals Recovery/Solidification
Chromium (VI)	≥	500	Metals Recovery/Solidification
Lead	≥	500	Metals Recovery/Solidification
Mercury	≥	20	Metals Recovery/Solidification

Concentration			Treatment Standard
Nickel	≥	134	Metals Recovery/Solidification
Selenium	≥	100	Metals Recovery/Solidification
Thallium	≥	130	Metals Recovery/Solidification
PCBs	≥	50	Incineration/High Efficiency Boiler
Solid sludge or liquid w/HOCs	≥	1,000	Incineration/Carbon Adsorption/Solvent Extraction

NOTE: "Wastewater" means a waste containing less than 1% filterable solids and less than 1% T.O.C.

Hazardous Debris Notification

☐ This hazardous debris is subject to the alternative treatment standards of 40 CFR § 268.45.

Contaminants Subject to Treatment (please list waste codes applicable to the debris)														

FACILITY: Note that "Contaminants Subject to Treatment" are those constituents applicable to a waste code listed above for which a BDAT treatment standard is established in 40 CFR § 268.40, including underlying constituents where applicable.

Underlying Constituents to be Monitored

☐ F039 (Constituents to be monitored must be indicated. Use Form LDR N-1b.)

☐ F001-F005, D001 (other than residues from RORGS or CMBST), D002, D012-D043 (Underlying constituents must be indicated. Use form LDR N-1b.)

Defined: An underlying Constituent includes any constituent listed in § 268.48 Table UTS-Universal Treatment Standards, except zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste at a concentration above the constituent specific UTS treatment standard.

Deadline Extensions and Variances

Certain wastes may be subject to a deadline extension or variance (e.g., treatability variance, case-by-case extension). Describe below any extension that applies to a waste in this waste shipment (include dates and waste codes).

NOTE: Hazardous wastes that exhibit the characteristic of toxicity based on the TCLP but do not exhibit EP toxicity are newly listed wastes.

SPCI

Form LDR N-1a

Supplement to Notification of Waste Subject to Land Disposal Restrictions

...SUPPLEMENTAL PAGE # 2 OF 2

...est number associated with waste shipment	Generator Name

This form supplements Form USPCI LDR N-1 to list additional USEPA waste codes that identify a waste shipment.

THIS FORM CANNOT BE USED ALONE AND MUST BE ATTACHED TO A USPCI LDR N-1 FORM.

...uant to 40 CFR 268.7 (a), I hereby notify that this waste shipment contains a waste(s) that is (are) restricted under the land disposal restrictions contained ...ther 40 CFR 268.40 or 42 USC § 6924(d). This shipment contains all listed codes starting on the attached USPCI LDR N-1 form and any codes listed on ...tional USPCI LDR N-1a Forms associated with this shipment and are subject to the specified treatment requirements..

List a D,F,K,U, or P Subcategory (if any) (eg: F006, D003)	Subcategory (if any)	✓ wastewater or non-wastewater WW	NWW	USPCI acceptance #	California List (✓ if applicable)	Reason California List applies (list of constituent properties below)
D007		☐	☒	CF96-1061	☐	
D008		☐	☒	"	☐	
		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	
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		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	
		☐	☐		☐	

Hazardous Debris Notification

☐ This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45.

Contaminants Subject to Treatment (please list waste codes applicable to the debris)

FACILITY: Note that "Contaminants Subject to Treatment" are those constituents applicable to a waste code listed above for which a BDAT treatment standard has been promulgated in 40 CFR 268.41 or 268.43.

ISPCI
A Subsidiary of
Pacific Corporation

Form LDR N-1b

Constituents to be Monitored (40 CFR § 268.48)

nstituents to be Monitored

S Table. This table identifies the constituents listed in 40 CFR § 268.48 for which universal treatment standards have been set. e this table in association with Form LDR N-1 to identify underlying constituents to be monitored in F001–F005, F039, D001 ner than High TOC non-wastewater forms), D002 & D012–D043 hazardous wastes.

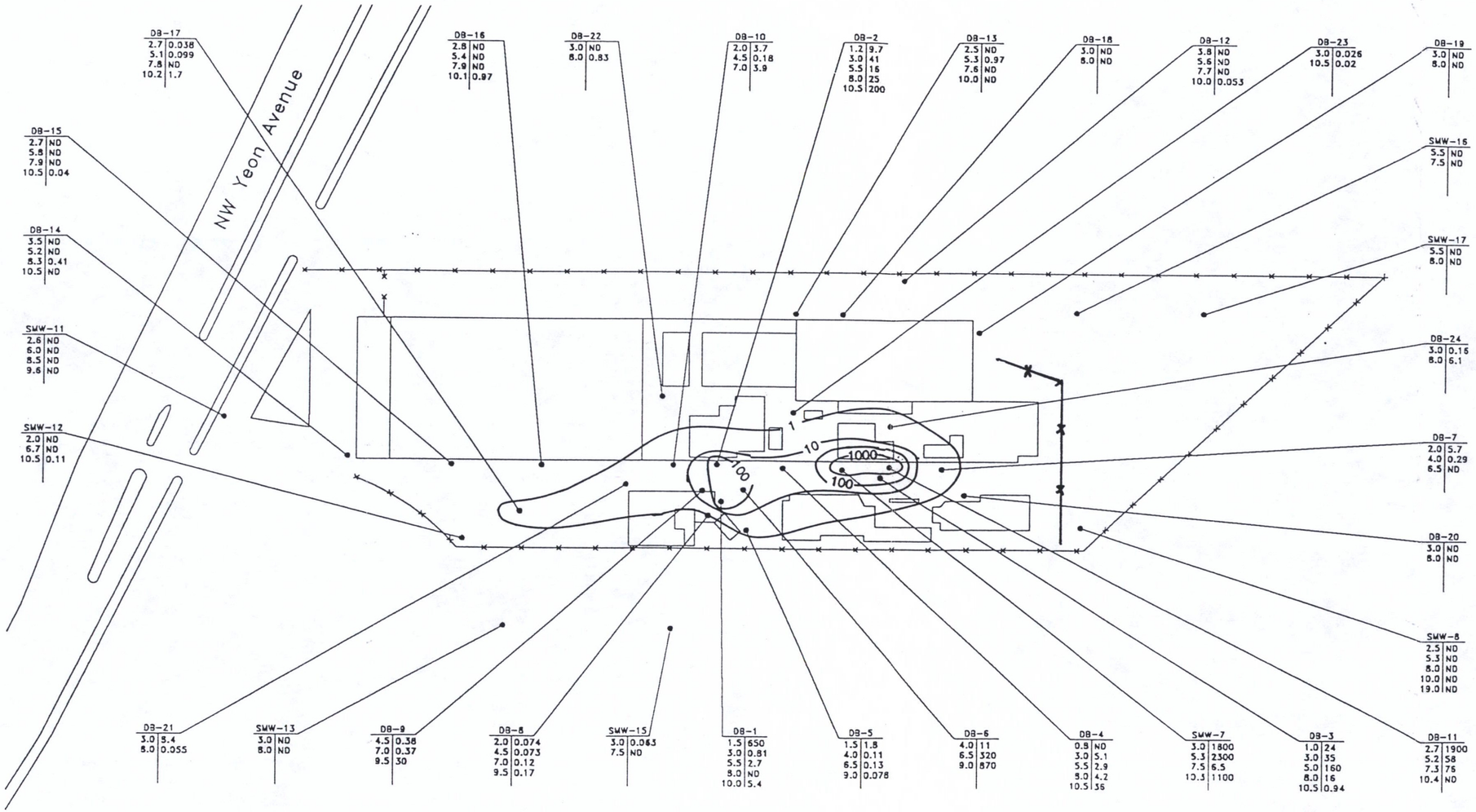
F039 Underlying Constituent Line #	LDR N-1 Regulated Constituent
☐ 2-	Acenaphtylene
☐ 2-	Acenaphthene
☒ 2-	Acetone
☐ 2-	Acetonitrile
☐ 2-	Acetophenone
☐ 2-	2-Acetylaminofluorene
☐ 2-	Acrolein
☐ 2-	Acrylamide
☐ 2-	Acrylonitrile
☐ 2-	Aldrin
☐ 2-	4-Amino biphenyl
☐ 2-	Aniline
☐ 2-	Anthracene
☐ 2-	Aramite
☐ 2-	alpha-BHC
☐ 2-	beta-BHC
☐ 2-	delta-BHC
☐ 2-	gamma-BHC
☐ 2-	Benzene
☐ 2-	Benz (a) anthracene
☐ 2-	Benzal chloride
☐ 2-	Benzo (b) fluoranthene
☐ 2-	Benzo (k) fluoranthene
☐ 2-	Benzo (g,h,i) perylene
☐ 2-	Benzo (a) pyrene
☐ 2-	Bromodichloromethane
☐ 2-	Methyl Bromide (Bromomethane)
☐ 2-	4-Bromophenyl phenyl ether
☐ 2-	n-Butyl alcohol
☐ 2-	Butyl benzyl phthalate
☐ 2-	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)
☐ 2-	Carbon disulfide
☐ 2-	Carbon tetrachloride
☐ 2-	Chlordane (alpha & gamma isomers)
☐ 2-	p-Chloroaniline
☐ 2-	Chlorobenzene
☐ 2-	Chlorobenzilate
☐ 2-	2-Chloro-1,3-butadiene
☐ 2-	Chlorodibromomethane
☐ 2-	Chloroethane
☐ 2-	bis(2-Chloroethoxy) methane
☐ 2-	bis(2-Chloroethyl)ether
☐ 2-	Chloroform
☐ 2-	bis(2-Chloroisopropyl) ether
☐ 2-	p-Chloro-m-cresol
☐ 2-	2-Chloroethyl vinyl ether
☐ 2-	Chloromethane (Methyl Chloride)
☐ 2-	2-Chloronaphthalene
☐ 2-	2-Chlorophenol
☐ 2-	3-Chloropropylene
☐ 2-	Chrysene

F039 Underlying Constituent Line #	LDR N-1 Regulated Constituent
☐ ☐ 2-	p-Cresol
☐ ☐ 2-	Cyclohexanone
☐ ☐ 2-	1,2-Dibromo-3-chlorpropane
☐ ☐ 2-	Ethylene Dibromide (1,2-Dibromoethane)
☐ ☐ 2-	Dibromomethane
☐ ☐ 2-	2,4-D (2,4-Dichlorophenoxyacetic acid)
☐ ☐ 2-	o,p'-DDD
☐ ☐ 2-	p,p'-DDD
☐ ☐ 2-	o,p'-DDE
☐ ☐ 2-	p,p'-DDE
☐ ☐ 2-	o,p'-DDT
☐ ☐ 2-	p,p'-DDT
☐ ☐ 2-	Dibenz (a,h) anthracene
☐ ☐ 2-	Dibenz (a,e) pyrene
☐ ☐ 2-	m-Dichlorobenzene
☐ ☐ 2-	o-Dichlorobenzene
☐ ☐ 2-	p-Dichlorobenzene
☐ ☐ 2-	Dichlorodifluoromethane
☐ ☐ 2-	1,1-Dichloroethane
☒ ☐ 2-	1,2-Dichloroethane
☐ ☐ 2-	1,1-Dichloroethylene
☐ ☐ 2-	trans-1,2-Dichloroethylene
☐ ☐ 2-	2,4-Dichlorophenol
☐ ☐ 2-	2,6-Dichlorophenol
☐ ☐ 2-	1,2-Dichloropropane
☐ ☐ 2-	cis-1,3- Dichloropropylene
☐ ☐ 2-	trans-1,3-Dichloropropylene
☐ ☐ 2-	Dieldrin
☐ ☐ 2-	Diethyl phthalate
☐ ☐ 2-	2-4-Dimethyl phenol
☐ ☐ 2-	Dimethyl phthalate
☐ ☐ 2-	Di-n-butyl phthalate
☐ ☐ 2-	1,4-Dintrobenzene
☐ ☐ 2-	4,6- Dintro-o-cresol
☐ ☐ 2-	2,4-Dinitrophenol
☐ ☐ 2-	2,4-Dinitrotoluene
☐ ☐ 2-	2,6-Dinitrotoluene
☐ ☐ 2-	Di-n-octyl phthalate
☐ ☐ 2-	p-Dimethylaminoazobenzene
☐ ☐ 2-	Di-n-propylnitrosoamine
☐ ☐ 2-	1,4-Dioxane
☐ ☐ 2-	Diphenylamine
☐ ☐ 2-	Diphenylnitrosoamine
☐ ☐ 2-	1,2-Diphenylhydrazine
☐ ☐ 2-	Disulfoton
☐ ☐ 2-	Endosulfan I
☐ ☐ 2-	Endosulfan II
☐ ☐ 2-	Endosulfan Sulfate
☐ ☐ 2-	Endrin
☐ ☐ 2-	Endrin aldehyde
☐ ☐ 2-	Ethyl acetate

F039 Underlying Constituent		Line # LDR N-1 Regulated Constituent
☐	☐	2- Ethyl ether
☐	☐	2- bis(2-Ethylhexyl) phthalate
☐	☐	2- Ethyl methacrylate
☐	☐	2- Ethylene oxide
☐	☐	2- Famphur
☐	☐	2- Fluoranthene
☐	☐	2- Fluorene
☐	☐	2- Heptachlor
☐	☐	2- Heptachlor epoxide
☐	☐	2- Hexachlorobenzene
☐	☐	2- Hexachlorobutadiene
☐	☐	2- Hexachlorocyclopentadiene
☐	☐	2- HxCDDs (All Hexachlorodibenzo-p-dioxins)
☐	☐	2- HxCDFs (All Hexachlorodibenzofurans)
☐	☐	2- Hexachloroethane
☐	☐	2- Hexachloropropylene
☐	☐	2- Indeno (1,2,3-c,d) pyrene
☐	☐	2- Iodomethane
☐	☐	2- Isobutyl alcohol
☐	☐	2- Isodrin
☐	☐	2- Isosafrole
☐	☐	2- Kepone
☐	☐	2- Methacrylonitrile
☐	☐	2- Methanol
☐	☐	2- Methapyrilene
☐	☐	2- Methoxychlor
☐	☐	2- 3-Methylcholanthrene
☐	☐	2- 4,4-Methylene bis (2-chloroaniline)
☐	☐	2- Methylene Chloride
☐	☐	2- Methyl ethyl ketone
☐	☐	2- Methyl isobutyl ketone
☐	☐	2- Methyl methacrylate
☐	☐	2- Methyl methansulfonate
☐	☐	2- Methyl parathion
☐	☐	2- Naphthalene
☐	☐	2- 2-Naphthylamine
☐	☐	2- o-Nitroaniline
☐	☐	2- p-Nitroaniline
☐	☐	2- Nitrobenzene
☐	☐	2- 5-Nitro-o-toluidine
☐	☐	2- o-Nitrophenol
☐	☐	2- p-Nitrophenol
☐	☐	2- N-Nitrosodiethylamine
☐	☐	2- N-Nitrosodimethylamine
☐	☐	2- N-Nitroso-di-n-butylamine
☐	☐	2- N-Nitrosomethylethylamine
☐	☐	2- N-Nitrosomorpholine
☐	☐	2- N-Nitrosopiperidine
☐	☐	2- N-Nitrosopyrrolidine
☐	☐	2- Parathion
☐	☐	2- Total PCBs(sum of all isomers, or all Aroclors)
☐	☐	2- Pentachlorobenzene
☐	☐	2- PeCDDs (All Pentachlorodibenzo-p-dioxins)
☐	☐	2- PeCDFs (All Pentachlorodibenzofurans)
☐	☐	2- Pentachloroethane
☐	☐	2- Pentachloronitrobenzene
☐	☐	2- Pentachlorophenol
☐	☐	2- Phenacetin
☐	☐	2- Phenanthrene
☐	☐	2- Phenol
☐	☐	2- Phorate
☐	☐	2- Phthalic acid

F039 Underlying Constituent		Line # LDR N-1 Regulated Constituent
☐	☐	2- Pyrene
☐	☐	2- Pyridine
☐	☐	2- Safrole
☐	☐	2- Silvex (2,4,5-TP)
☐	☐	2- 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)
☐	☐	2- 1,2,4,5-Tetrachlorobenzene
☐	☐	2- TCDDs (All Tetrachlorodibenzo-p-dioxins)
☐	☐	2- TCDFs (All Tetrachlorodibenzofurans)
☐	☐	2- 1,1,1,2-Tetrachloroethane
☐	☐	2- 1,1,2,2-Tetrachloroethane
☐	☒	2- Tetrachloroethylene
☐	☐	2- 2,3,4,6-Tetrachlorophenol
☐	☒	2- Toluene
☐	☐	2- Toxaphene
☐	☐	2- Bromoform (Tribromomethane)
☐	☐	2- 1,2,4-Trichlorobenzene
☐	☐	2- 1,1,1-Trichloroethane
☐	☐	2- 1,1,2-Trichloroethane
☐	☒	2- Trichloroethylene
☐	☐	2- Trichloromonofluoromethane
☐	☐	2- 2,4,5-Trichlorophenol
☐	☐	2- 2,4,6-Trichlorophenol
☐	☐	2- 1,2,3-Trichloropropane
☐	☒	2- 1,1,2-Trichloro-1,2,2-trifluoroethane
☐	☐	2- tris-(2,3-Dibromopropyl)phosphate
☐	☐	2- Vinyl Chloride
☐	☒	2- Xylenes-mixed isomers (sum of o-,m-, p-xylene combinations)
☐	☐	2- Antimony
☐	☐	2- Arsenic
☐	☐	2- Barium
☐	☐	2- Beryllium
☐	☐	2- Cadmium
☐	☒	2- Chromium (total)
☐	☒	2- Lead
☐	☐	2- Mercury (retort residues)
☐	☐	2- Mercury (non-retort residues)
☐	☐	2- Mercury
☐	☐	2- Nickel
☐	☐	2- Selenium
☐	☐	2- Silver
☐	☐	2- Thallium
☐	☐	2- Vanadium
☐	☐	2- Zinc
☐	☐	2- Cyanide (total)
☐	☐	2- Cyanide (Amenable)
☐	☐	2- Fluoride
☐	☐	2- Sulfide

Attachment F



EXPLANATION

- Soil boring location

SOIL BORING NUMBER

Depth to soil boring sample (feet)	Concentration of 1,1,1-Trichloroethane found in soil boring samples (mg/kg)

ND — Not Detected; Detection level shown in Appendix A

—10— Chemical concentration contour in mg/kg; based on maximum observed concentrations in each boring.

Groundwater Collection Pipeline

N

0 150 300

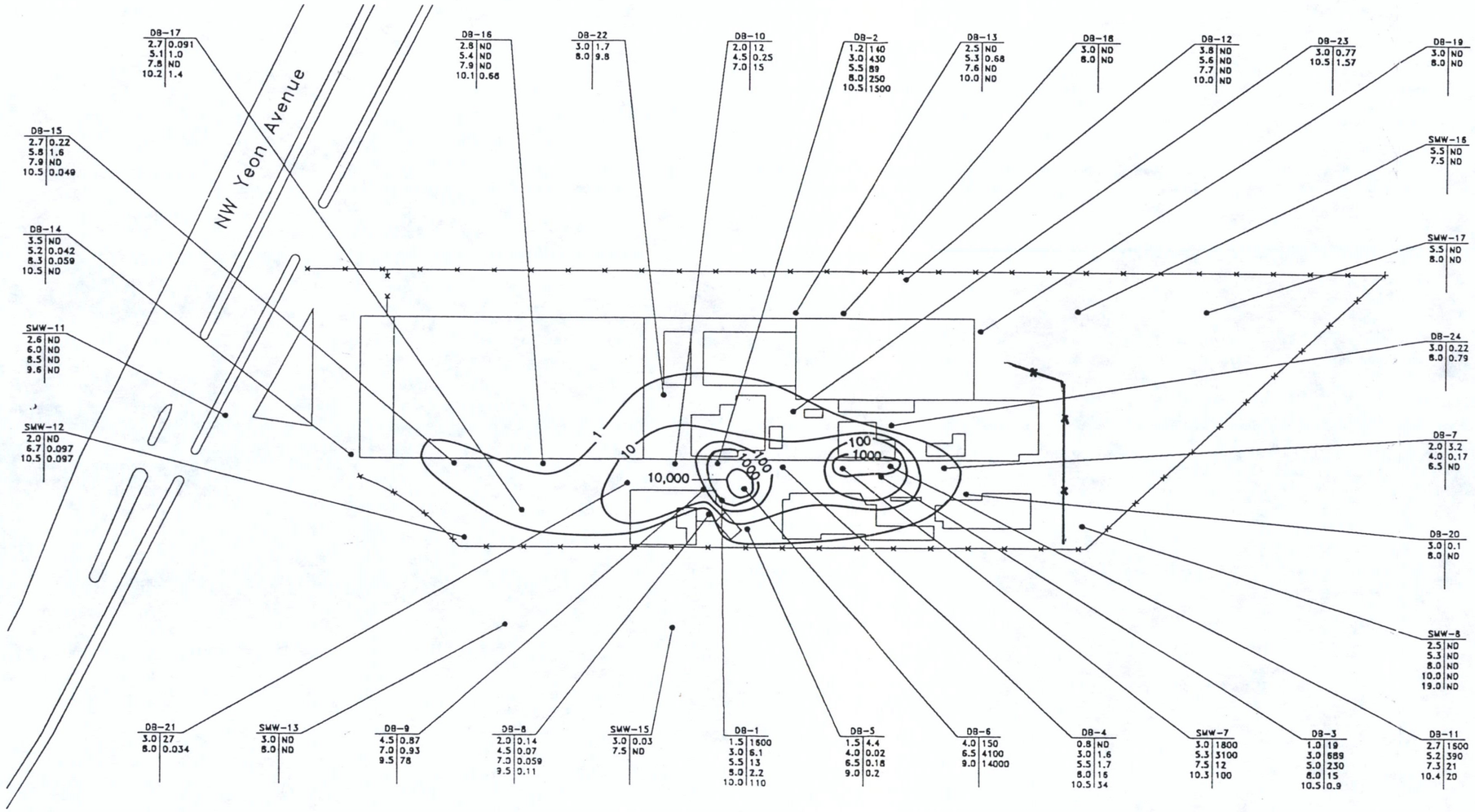
APPROXIMATE SCALE IN FEET

Harding Lawson Associates
Engineering and Environmental Services

1,1,1,-Trichloroethane Concentrations in Soil Borings
RCRA Facility Investigation Report
Van Waters & Rogers, Inc.
Portland, Oregon

PLATE **33**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
	10986 293		1/93	



EXPLANATION

- Soil boring location

SOIL BORING NUMBER

Depth to soil boring sample (feet)	Concentration of Tetrachloroethene found in soil boring samples (mg/kg)

ND — Not Detected; Detection level shown in Appendix A

—10— Chemical concentration contour in mg/kg; based on maximum observed concentrations in each boring.

Groundwater Collection Pipeline

N

0 150 300

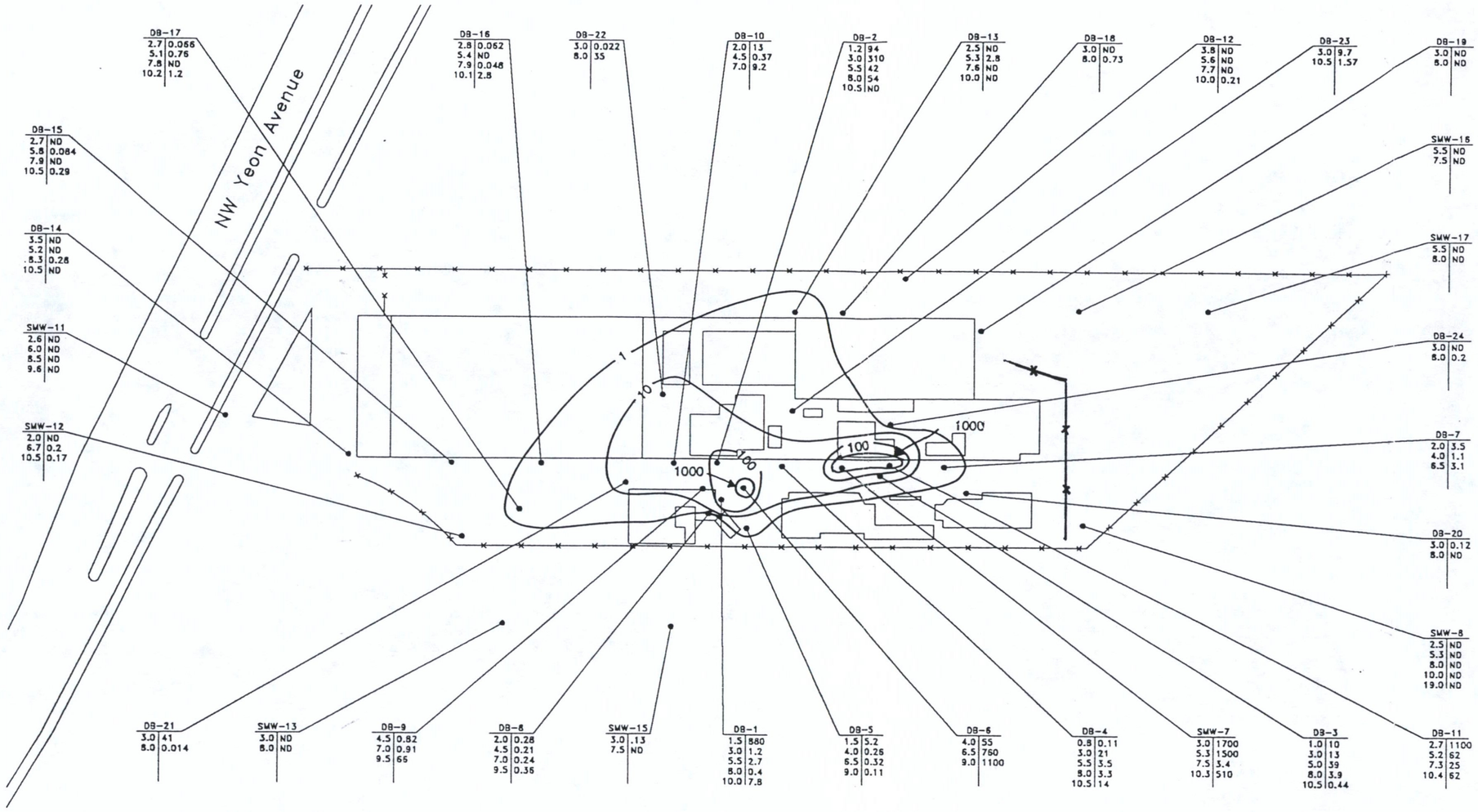
APPROXIMATE SCALE IN FEET

Harding Lawson Associates
Engineering and
Environmental Services

Tetrachloroethene Concentrations in Soil Borings
RCRA Facility Investigation Report
Van Waters & Rogers, Inc.
Portland, Oregon

PLATE **31**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
	10986 293		1/93	



EXPLANATION

- • Soil boring location
- SOIL BORING NUMBER
  - Depth to soil boring sample (feet) | Concentration of Trichloroethene found in soil boring samples (mg/kg)
- ND — Not Detected; Detection level shown in Appendix A
- —10— Chemical concentration contour in mg/kg; based on maximum observed concentrations in each boring.
- Groundwater Collection Pipeline

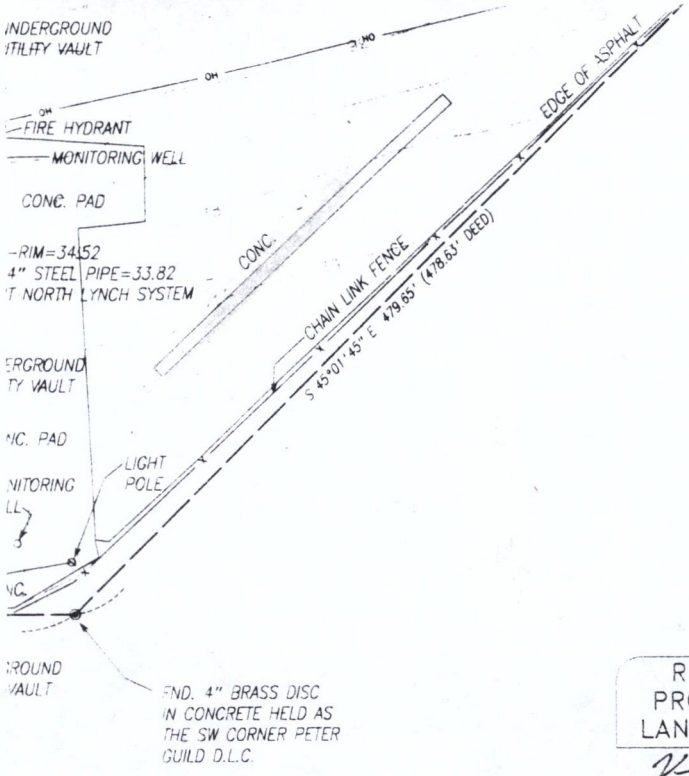
Harding Lawson Associates
Engineering and Environmental Services

Trichloroethene Concentrations in Soil Borings
RCRA Facility Investigation Report
Van Waters & Rogers, Inc.
Portland, Oregon

PLATE **32**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
	10986 293		1/93	

Attachment G



Groundwater Collection Pipeline

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 16, 1987
KURT F. STONEX
2310

Expires 6-30-96

2/21/96

REVISIONS 2/21/96

1	ADDED FINISH FLOOR ELEVATIONS
2	REVISED VICINITY MAP
3	ADDED RAILROAD TIES NORTH OF YEON

/data/5700/5740/5740 PLAN

360-695-1385 503-289-9936

DESIGNED	VB	SCALE H: 1"=60' V:	SHEET 1/1
DRAWN	CJW	DATE 1/96	
CHECKED	KFS	JOB NO. 5740	

Attachment H

PACIFIC
ENVIRONMENTAL
LABORATORY INC.

March 18, 1993

Van Waters and Rogers, Inc.
4300 Holly Street
Denver, CO 80216

Attn: George Sylvester

Re: JOB #TRENCH #1
PROJECT - GROUND WTR TREATMENT SYSTEM
PEL #93-0712

Enclosed is the lab report for your samples which were received on March 10, 1993.

I. Sample Description

Seven Soil Samples

The samples were received under a chain of custody.

The samples were received in containers consistent with EPA protocol.

II. Quality Control

No project specific QC was requested. In-house QC data is available upon request.

III. Analytical Results

Test methods may include minor modifications of published methods such as detection limits or parameter lists. Solid and waste samples are reported on an "as received" basis unless otherwise noted.

Compounds not detected are listed under results as ND.

Sincerely,

Howard Holmes
Project Manager

Robert R. May
Rob May
Project Manager

9405 S.W. Nimbus Ave. ■ Beaverton, OR 97005 ■ (503) 644-0660 ■ FAX # (503) 644-2202

METHOD: Volatile Organic Compounds per EPA 8240
Results in ug/kg (ppb), Dry Weight Basis

Analyte	#1 West Box	#7 East Box	#8/#9/#10 Composite	Detection Limit
Acetone	200	ND	ND	10
Acrolein	ND	ND	ND	100
Acrylonitrile	ND	ND	ND	50
Benzene	ND	ND	ND	2.0
Bromodichloromethane	ND	ND	ND	2.0
Bromoform	ND	ND	ND	2.0
Bromomethane	ND	ND	ND	10
2-Butanone	ND	ND	ND	7.5
Carbon Disulfide	ND	ND	ND	2.0
Carbon Tetrachloride	ND	ND	ND	2.0
Chlorobenzene	ND	ND	ND	2.0
Chloroethane	ND	ND	ND	10
Chloroform	ND	ND	ND	2.0
Chloromethane	ND	ND	ND	10
Dibromochloromethane	ND	ND	ND	2.0
Dibromomethane	ND	ND	ND	2.0
1,4-Dichloro-2-butene	ND	ND	ND	50
Dichlorobenzenes (total)	ND	ND	ND	2.0
Dichlorodifluoromethane	ND	ND	ND	5.0
1,1-Dichloroethane	ND	ND	ND	2.0
1,2-Dichloroethane	ND	ND	ND	2.0
1,1-Dichloroethene	ND	ND	ND	2.0
cis-1,2-Dichloroethene	52	ND	ND	2.0
trans-1,2-Dichloroethene	ND	ND	ND	2.0
1,2-Dichloropropane	ND	ND	ND	2.0
cis-1,3-Dichloropropene	ND	ND	ND	2.0
trans-1,3-Dichloropropene	ND	ND	ND	2.0
Ethyl Methacrylate	ND	ND	ND	2.0
Ethylbenzene	ND	ND	ND	2.0
2-Hexanone	ND	ND	ND	5.0
Iodomethane	ND	ND	ND	2.0
4-Methyl-2-pentanone	ND	ND	ND	5.0
Methylene Chloride	ND	ND	ND	5.0
Styrene	ND	ND	ND	2.0
1,1,2,2-Tetrachloroethane	ND	ND	ND	2.0
Tetrachloroethene	13	5.6	3.6	2.0
Toluene	ND	ND	ND	2.0
1,1,1-Trichloroethane	ND	ND	ND	2.0
1,1,2-Trichloroethane	ND	ND	ND	2.0
Trichloroethene	29	9.6	3.8	2.0
Trichlorofluoromethane	ND	ND	ND	2.0
1,2,3-Trichloropropane	ND	ND	ND	2.0
Vinyl Acetate	ND	ND	ND	10
Vinyl Chloride	ND	ND	ND	5.0
Xylenes (total)	ND	ND	ND	2.0
Date Prepped:	03/11/93	03/11/93	03/11/93	
Date Analyzed:	03/11/93	03/11/93	03/11/93	

Surrogate Recovery (%)	#1 West Box	#7 East Box	#8/#9/#10 Composite	Control Limit
4-Bromofluorobenzene	95	86	89	74-121
1,2,-Dichloroethane-d4	96	98	96	70-121
Toluene-d8	99	98	96	81-117

METHOD: Volatile Organic Compounds per EPA 8240
Results in ug/kg (ppb), Dry Weight Basis

Analyte	#11 North Box	Detection Limit
Acetone	ND	10
Acrolein	ND	100
Acrylonitrile	ND	50
Benzene	ND	2.0
Bromodichloromethane	ND	2.0
Bromoform	ND	2.0
Bromomethane	ND	10
2-Butanone	ND	7.5
Carbon Disulfide	ND	2.0
Carbon Tetrachloride	ND	2.0
Chlorobenzene	ND	2.0
Chloroethane	ND	10
Chloroform	ND	2.0
Chloromethane	ND	10
Dibromochloromethane	ND	2.0
Dibromomethane	ND	2.0
1,4-Dichloro-2-butene	ND	50
Dichlorobenzenes (total)	ND	2.0
Dichlorodifluoromethane	ND	5.0
1,1-Dichloroethane	ND	2.0
1,2-Dichloroethane	ND	2.0
1,1-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
1,2-Dichloropropane	ND	2.0
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Ethyl Methacrylate	ND	2.0
Ethylbenzene	ND	2.0
2-Hexanone	ND	5.0
Iodomethane	ND	2.0
4-Methyl-2-pentanone	ND	5.0
Methylene Chloride	ND	5.0
Styrene	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	21	2.0
Toluene	ND	2.0
1,1,1-Trichloroethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Trichloroethene	4.8	2.0
Trichlorofluoromethane	ND	2.0
1,2,3-Trichloropropane	ND	2.0
Vinyl Acetate	ND	10
Vinyl Chloride	ND	5.0
Xylenes (total)	ND	2.0
Date Prepped:	03/11/93	
Date Analyzed:	03/11/93	

Surrogate Recovery (%)	#11 North Box	Control Limit
4-Bromofluorobenzene	92	74-121
1,2,-Dichloroethane-d4	97	70-121
Toluene-d8	98	81-117

METHOD: Volatile Organic Compounds per EPA 8240
Results in ug/kg (ppb), Dry Weight Basis

Analyte	#2/ #3 Composite	Detection Limit
Acetone	240	20
Acrolein	ND	200
Acrylonitrile	ND	100
Benzene	ND	4.0
Bromodichloromethane	ND	4.0
Bromoform	ND	4.0
Bromomethane	ND	20
2-Butanone	ND	15
Carbon Disulfide	ND	4.0
Carbon Tetrachloride	ND	4.0
Chlorobenzene	ND	4.0
Chloroethane	ND	20
Chloroform	ND	4.0
Chloromethane	ND	20
Dibromochloromethane	ND	4.0
Dibromomethane	ND	4.0
1,4-Dichloro-2-butene	ND	100
Dichlorobenzenes (total)	ND	4.0
Dichlorodifluoromethane	ND	10
1,1-Dichloroethane	ND	4.0
1,2-Dichloroethane	ND	4.0
1,1-Dichloroethene	ND	4.0
cis-1,2-Dichloroethene	260	4.0
trans-1,2-Dichloroethene	ND	4.0
1,2-Dichloropropane	ND	4.0
cis-1,3-Dichloropropene	ND	4.0
trans-1,3-Dichloropropene	ND	4.0
Ethyl Methacrylate	ND	4.0
Ethylbenzene	ND	4.0
2-Hexanone	ND	10
Iodomethane	ND	4.0
4-Methyl-2-pentanone	ND	10
Methylene Chloride	ND	10
Styrene	ND	4.0
1,1,2,2-Tetrachloroethane	ND	4.0
Tetrachloroethene	99	4.0
Toluene	150	4.0
1,1,1-Trichloroethane	ND	4.0
1,1,2-Trichloroethane	ND	4.0
Trichloroethene	270	4.0
Trichlorofluoromethane	ND	4.0
1,2,3-Trichloropropane	ND	4.0
Vinyl Acetate	ND	20
Vinyl Chloride	ND	10
Xylenes (total)	ND	4.0
Date Prepped:	03/12/93	
Date Analyzed:	03/12/93	

Surrogate Recovery (%)	#2/ #3 Composite	Control Limit
4-Bromofluorobenzene	93	74-121
1,2,-Dichloroethane-d4	98	70-121
Toluene-d8	99	81-117

METHOD: Volatile Organic Compounds per EPA 8240
Results in ug/kg (ppb), Dry Weight Basis

Analyte	#5/#6 Composite	Detection Limit
Acetone	130	50
Acrolein	ND	500
Acrylonitrile	ND	250
Benzene	ND	10
Bromodichloromethane	ND	10
Bromoform	ND	10
Bromomethane	ND	50
2-Butanone	ND	38
Carbon Disulfide	ND	10
Carbon Tetrachloride	ND	10
Chlorobenzene	ND	10
Chloroethane	ND	50
Chloroform	ND	10
Chloromethane	ND	50
Dibromochloromethane	ND	10
Dibromomethane	ND	10
1,4-Dichloro-2-butene	ND	250
Dichlorobenzenes (total)	ND	10
Dichlorodifluoromethane	ND	25
1,1-Dichloroethane	ND	10
1,2-Dichloroethane	ND	10
1,1-Dichloroethene	ND	10
cis-1,2-Dichloroethene	72	10
trans-1,2-Dichloroethene	ND	10
1,2-Dichloropropane	ND	10
cis-1,3-Dichloropropene	ND	10
trans-1,3-Dichloropropene	ND	10
Ethyl Methacrylate	ND	10
Ethylbenzene	35	10
2-Hexanone	ND	25
Iodomethane	ND	10
4-Methyl-2-pentanone	ND	25
Methylene Chloride	ND	25
Styrene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
Tetrachloroethene	260	10
Toluene	ND	10
1,1,1-Trichloroethane	ND	10
1,1,2-Trichloroethane	ND	10
Trichloroethene	88	10
Trichlorofluoromethane	ND	10
1,2,3-Trichloropropane	ND	10
Vinyl Acetate	ND	50
Vinyl Chloride	ND	25
Xylenes (total)	94	10
Date Prepped:	03/15/93	
Date Analyzed:	03/15/93	

Surrogate Recovery (%)	#5/#6 Composite	Control Limit
4-Bromofluorobenzene	92	74-121
1,2,-Dichloroethane-d4	97	70-121
Toluene-d8	101	81-117

METHOD: Volatile Organic Compounds per EPA 8240
Results in ug/kg (ppb), Dry Weight Basis

Analyte	#4 Center Box	Detection Limit
Acetone	ND	1,300
Acrolein	ND	13,000
Acrylonitrile	ND	6,300
Benzene	ND	250
Bromodichloromethane	ND	250
Bromoform	ND	250
Bromomethane	ND	1,300
2-Butanone	ND	940
Carbon Disulfide	ND	250
Carbon Tetrachloride	ND	250
Chlorobenzene	ND	250
Chloroethane	ND	1,300
Chloroform	ND	250
Chloromethane	ND	1,300
Dibromochloromethane	ND	250
Dibromomethane	ND	250
1,4-Dichloro-2-butene	ND	6,300
Dichlorobenzenes (total)	ND	250
Dichlorodifluoromethane	ND	630
1,1-Dichloroethane	ND	250
1,2-Dichloroethane	ND	250
1,1-Dichloroethene	ND	250
cis-1,2-Dichloroethene	430	250
trans-1,2-Dichloroethene	ND	250
1,2-Dichloropropane	ND	250
cis-1,3-Dichloropropene	ND	250
trans-1,3-Dichloropropene	ND	250
Ethyl Methacrylate	ND	250
Ethylbenzene	ND	250
2-Hexanone	ND	630
Iodomethane	ND	250
4-Methyl-2-pentanone	ND	630
Methylene Chloride	ND	630
Styrene	ND	250
1,1,2,2-Tetrachloroethane	ND	250
Tetrachloroethene	11,000	250
Toluene	ND	250
1,1,1-Trichloroethane	ND	250
1,1,2-Trichloroethane	ND	250
Trichloroethene	2,800	250
Trichlorofluoromethane	ND	250
1,2,3-Trichloropropane	ND	250
Vinyl Acetate	ND	1,300
Vinyl Chloride	ND	630
Xylenes (total)	ND	250
Date Prepped:	03/15/93	
Date Analyzed:	03/15/93	

Surrogate Recovery (%)	#4 Center Box	Control Limit
4-Bromofluorobenzene	107	74-121
1,2,-Dichloroethane-d4	107	70-121
Toluene-d8	121(a)	81-117

(a) Surrogate recovery is out of control limits.

METHOD: Volatile Organic Compounds per EPA 8240
Results in ug/kg (ppb), Dry Weight Basis

Analyte	Method Blank	Detection Limit
Acetone	ND	10
Acrolein	ND	100
Acrylonitrile	ND	50
Benzene	ND	2.0
Bromodichloromethane	ND	2.0
Bromoform	ND	2.0
Bromomethane	ND	10
2-Butanone	ND	7.5
Carbon Disulfide	ND	2.0
Carbon Tetrachloride	ND	2.0
Chlorobenzene	ND	2.0
Chloroethane	ND	10
Chloroform	ND	2.0
Chloromethane	ND	10
Dibromochloromethane	ND	2.0
Dibromomethane	ND	2.0
1,4-Dichloro-2-butene	ND	50
Dichlorobenzenes (total)	ND	2.0
Dichlorodifluoromethane	ND	5.0
1,1-Dichloroethane	ND	2.0
1,2-Dichloroethane	ND	2.0
1,1-Dichloroethene	ND	2.0
cis-1,2-Dichloroethene	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
1,2-Dichloropropane	ND	2.0
cis-1,3-Dichloropropene	ND	2.0
trans-1,3-Dichloropropene	ND	2.0
Ethyl Methacrylate	ND	2.0
Ethylbenzene	ND	2.0
2-Hexanone	ND	5.0
Iodomethane	ND	2.0
4-Methyl-2-pentanone	ND	5.0
Methylene Chloride	ND	5.0
Styrene	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
Toluene	ND	2.0
1,1,1-Trichloroethane	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Trichloroethene	ND	2.0
Trichlorofluoromethane	ND	2.0
1,2,3-Trichloropropane	ND	2.0
Vinyl Acetate	ND	10
Vinyl Chloride	ND	5.0
Xylenes (total)	ND	2.0

PACIFIC ENVIRONMENTAL LABORATORY INC.

9405 S.W. Nimbus Ave.
Beaverton, OR 97005
(503) 644-0660
Fax (503) 644-2202

CHAIN OF CUSTODY RECORD

COMPANY Van Waters & Rogers Inc. PROJECT NAME Ground Wtr Treatment Syst. LAB PROJECT NUMBER 93-0712

PROJECT MANAGER George Sylvester PROJECT NUMBER Trench #1

COLLECTED BY George Sylvester P.O. NUMBER _____ RUSH ☐ YES ☑ NO

COMMENTS

IF SAMPLE IS LIQUID & HAS SEDIMENT OR PARTICULATE, SHALL WE:
N/A ☑ Test Filtrate Only?
_____ Mix Sample by Shaking?
_____ Test Particulate Only?

IF SAMPLE IS MULTI-PHASED, SHALL WE:
_____ Test Each Phase separately?
_____ Test only ONE Phase? Which Phase?
_____ Mix All Phases by Shaking?

PEL NO.	SAMPLE I.D.	DATE	TIME	PRESERV.	MATRIX: SOIL	MATRIX: WATER	MATRIX: OTHER	NUMBER OF CONTAINERS	TPH - HCID OAR/DEQ	QUANT. IF DETECTED (S)	TPH - Gasoline OAR/DEQ	TPH - Diesel OAR/DEQ	TPH - 418.1 Modified OAR/DEQ	8015M - Gas	8015M - Diesel	TPH 418.1	BTEX 602/8020	Halogenated Volatiles 601/8010	Volatiles 624/8240	Semivolatiles 625/8270	PCB's 608/8080	Chlorinated Pesticides 608/8080	TCLP (8) Metals						REMARKS
1	#1 West Box	3/10	9:00	NO	X			1											X										
2	#2/#3 Composite	"	9:30	"	"			1											"										
3	#4 Center Box	"	10:00	"	"			1											"										
4	#5/#6 Composite	"	10:30	"	"			1											"										
5	#7 East Box	"	11:00	"	"			1											"										
6	#8/#9/#10 Composite	"	11:30	"	"			1											"										
7	#11 North Box	"	12:00	"	"			1											"										

ALL SAMPLES WILL BE DISPOSED OF 30 DAYS AFTER RECEIPT

RELINQUISHED BY	COMPANY	DATE/TIME	RECEIVED BY	COMPANY
G Sylvest	Van Waters & Rogers	3/10/93 4:40	Sara McClary 1640	PEL 3/10/93
RELINQUISHED BY	COMPANY	DATE/TIME	RECEIVED BY	COMPANY
RELINQUISHED BY	COMPANY	DATE/TIME	RECEIVED BY	COMPANY

Note: Samples are discarded 30 days after receipt unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Attachment I

PACIFIC
ENVIRONMENTAL
LABORATORY INC.

June 22, 1993

Van Waters and Rogers, Inc.
4300 Holly Street
Denver, CO 80216

Attention: George Sylvester

RE: JOB #
P.O.#
PROJECT -

Enclosed are test results for your samples received in this lab on Jun. 10, 1993. For your reference, these analyses have been assigned our PEL # 93-1762.

Solid samples are reported on a dry weight basis except for Oregon DEQ Fuels Methods and where otherwise noted.

Please call if you have any questions.

Respectfully,

Howard Holmes
Project Manager

Rob May
Project Manager

cc: Sam Allatto
Van Waters and Rogers, Inc.

9405 S.W. Nimbus Ave. ■ Beaverton, OR 97005 ■ (503) 644-0660 ■ FAX # (503) 644-2202

PACIFIC
ENVIRONMENTAL
LABORATORY INC.

TCLP VOC's per EPA 1311, 8240
Results In mg/L (ppm)

Client: Van Waters and Rogers, Inc.
Project:
Received: 06/10/1993

PEL Number: 93-1762
Matrix: soil

Sample Name	Analyte	Result	MRL
E 283 Composite	Benzene	ND	0.0020
	Carbon Tetrachloride	ND	0.0020
	Chlorobenzene	ND	0.0020
	Chloroform	ND	0.0020
	1,4-Dichlorobenzene	ND	0.0020
	1,2-Dichloroethane	ND	0.0020
	1,1-Dichloroethene	ND	0.0020
	Methyl Ethyl Ketone	ND	0.0075
	Tetrachloroethene	ND	0.0020
	Trichloroethene	ND	0.0020
	Vinyl Chloride	ND	0.0050
	Date Extracted	06/15/93	
	Date Prepped	06/16/93	
	Date Analyzed	06/16/93	
E 2101 Composite	Benzene	ND	0.0020
	Carbon Tetrachloride	ND	0.0020
	Chlorobenzene	ND	0.0020
	Chloroform	ND	0.0020
	1,4-Dichlorobenzene	ND	0.0020
	1,2-Dichloroethane	ND	0.0020
	1,1-Dichloroethene	ND	0.0020
	Methyl Ethyl Ketone	ND	0.0075
	Tetrachloroethene	ND	0.0020
	Trichloroethene	ND	0.0020
	Vinyl Chloride	ND	0.0050
	Date Extracted	06/15/93	
	Date Prepped	06/16/93	
	Date Analyzed	06/16/93	

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

PACIFIC
ENVIRONMENTAL
LABORATORY INC.

TCLP VOC's per EPA 1311, 8240
Results In mg/L (ppm)

Client: Van Waters and Rogers, Inc.
Project:
Received: 06/10/1993

PEL Number: 93-1762
Matrix: soil

Sample Name	Analyte	Result	MRL
E 254 Composite	Benzene	ND	0.0020
	Carbon Tetrachloride	ND	0.0020
	Chlorobenzene	ND	0.0020
	Chloroform	ND	0.0020
	1,4-Dichlorobenzene	ND	0.0020
	1,2-Dichloroethane	ND	0.0020
	1,1-Dichloroethene	ND	0.0020
	Methyl Ethyl Ketone	ND	0.0075
	Tetrachloroethene	ND	0.0020
	Trichloroethene	ND	0.0020
	Vinyl Chloride	ND	0.0050
	Date Extracted	06/15/93	
	Date Prepped	06/16/93	
	Date Analyzed	06/16/93	
Pile Composite	Benzene	ND	0.0020
	Carbon Tetrachloride	ND	0.0020
	Chlorobenzene	ND	0.0020
	Chloroform	ND	0.0020
	1,4-Dichlorobenzene	ND	0.0020
	1,2-Dichloroethane	ND	0.0020
	1,1-Dichloroethene	ND	0.0020
	Methyl Ethyl Ketone	ND	0.0075
	Tetrachloroethene	ND	0.0020
	Trichloroethene	ND	0.0020
	Vinyl Chloride	ND	0.0050
	Date Extracted	06/15/93	
	Date Prepped	06/16/93	
	Date Analyzed	06/16/93	

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

PACIFIC
ENVIRONMENTAL
LABORATORY INC.

TCLP VOC's per EPA 1311, 8240
Results In mg/L (ppm)

Client: Van Waters and Rogers, Inc.
Project:
Received: 06/10/1993

PEL Number: 93-1762
Matrix: soil

Sample Name	Analyte	Result	MRL
Method Blank	Benzene	ND	0.0020
	Carbon Tetrachloride	ND	0.0020
	Chlorobenzene	ND	0.0020
	Chloroform	ND	0.0020
	1,4-Dichlorobenzene	ND	0.0020
	1,2-Dichloroethane	ND	0.0020
	1,1-Dichloroethene	ND	0.0020
	Methyl Ethyl Ketone	ND	0.0075
	Tetrachloroethene	ND	0.0020
	Trichloroethene	ND	0.0020
	Vinyl Chloride	ND	0.0050

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report

SURROGATE RECOVERIES (%)

Client: Van Waters and Rogers, Inc.
Project:

PEL Number: 93-1762
Received: 06/10/1993

Sample Name	Analyte	Result	Control Limits
TCLP VOC's per EPA 1311, 8240			
E 283 Composite	4-Bromofluorobenzene	105	86-115
	1,2-Dichloroethane-d4	99	76-114
	Toluene-d8	102	88-110
E 2101 Composite	4-Bromofluorobenzene	105	86-115
	1,2-Dichloroethane-d4	103	76-114
	Toluene-d8	104	88-110
E 254 Composite	4-Bromofluorobenzene	104	86-115
	1,2-Dichloroethane-d4	97	76-114
	Toluene-d8	101	88-110
Pile Composite	4-Bromofluorobenzene	105	86-115
	1,2-Dichloroethane-d4	99	76-114
	Toluene-d8	102	88-110

MRL Method Reporting Level
ND None Detected at or above the method reporting level
* See Comment Section at end of report